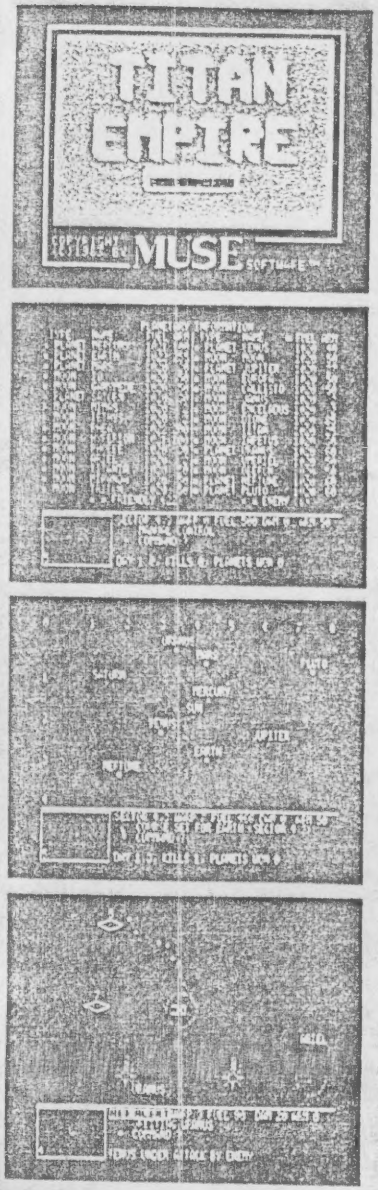
TITAN EMPIRE™



Command your Starship through space. Race through the universe at speeds up to Warp 9. Raise your Shields to protect yourself from heavy enemy attack. Beam up armies to strengthen your position. Fire Photon Torpedos and Tracking Missiles at the enemy. Set your Radar Range and visually see into space Sector by Sector as you go through the solar system. Control your fuel consumption and repair damages sustained in battle.

YOUR MISSION: To defend the remaining friendly planets and win back those planets already enslaved by the Titans.

Someone must conquer the evil inhabitants of Titan, a moon of Saturn, who are spreading doom and destruction as they try to take over the Solar System. Will it be you?

If you are a worthy commander of your Starship and you can take over all the planets in the shortest period of time your name will be entered into the Titan Empire Hall of Fame.

Titan Empire™ is an exciting space game that combines elements of **video action** and **challenging strategy** into a space adventure that is both **fun** and **educational**. Titan Empire™ contains a **realistic solar system** with the sun, nine orbiting planets and their major moons, plus enlightening educational information about each of them.

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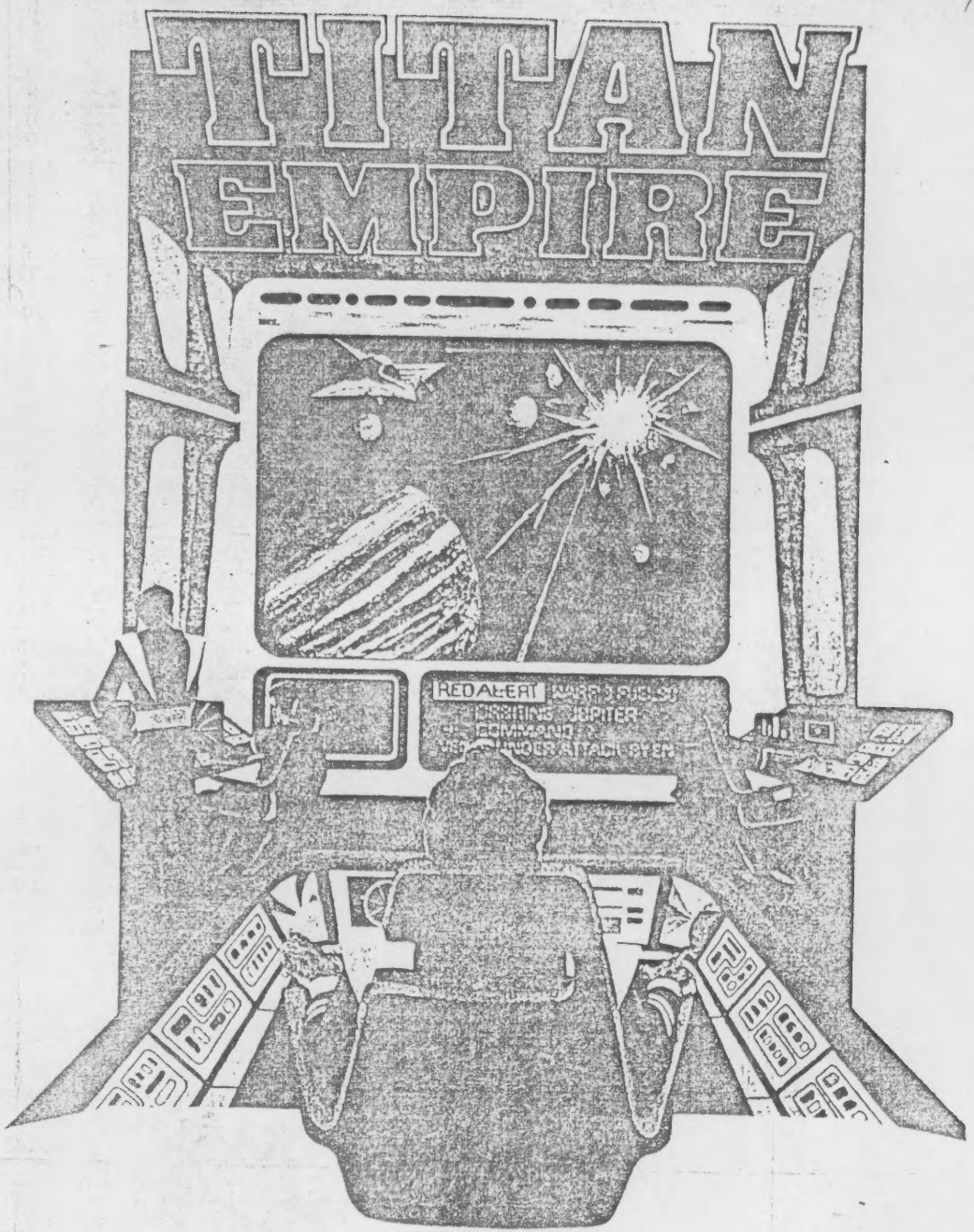

TITAN EMPIRE™

By E. Zaron

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For Apple II, Apple II Plus or Apple IIe
Requires 48K and Applesoft ROM

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Introduction

The evil inhabitants of Titan, a moon of Saturn, are spreading doom and destruction as they try to take over the solar system. You have been chosen to defend the remaining friendly planets and win back the planets already enslaved by the Titans.

Command your Starship through space at speeds up to Warp 9. Raise your Shields to protect yourself from heavy enemy attack. Beam up armies to strengthen your position. Fire Photon Torpedos and Tracking Missiles at the enemy. Set your Radar Range and visually see into space Sector by Sector as you go through the solar system. Control your fuel consumption and repair damages sustained in battle.

If you are a skilled commander of your Starship and can take over all the planets in the shortest period of time your name will be entered into the Titan Empire Hall of Fame.

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Starting Titan Empire™

To start Titan Empire™ carefully insert the program disk in your disk drive. Then 'boot' the program by turning your computer on. Or, if your computer is already turned on type 'PR#s' (where 's' is the slot number of your disk drive) and press RETURN. After a few moments the title page should appear. Press RETURN again and you will be presented with the Titan Empire Hall of Fame display and the following prompt.

PRESS 'O' TO CONTINUE WITH AN OLD GAME
OR PRESS RETURN FOR A NEW GAME

At this point you have four different options

1. You can press 'O' to continue with an old game that you have previously exited and saved to disk.

2. You can press RETURN to start a new game with the planets in the same positions as when you last started a new game.

3. You can press 'R' to randomize the solar system. This will move the planets to new positions in their orbits and select different planets to start as enemy bases. After randomizing the solar system the program will display the Hall of Fame again and you should press RETURN to continue.

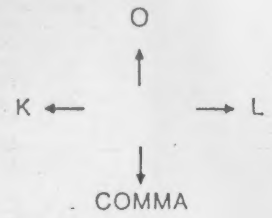
4. You can press 'I' to initialize the solar system. This will move the planets to the same positions as when you first played the game and set Saturn, Mercury and Jupiter as enemy planets. After initializing the solar system the program will display the Hall of Fame again and you should press RETURN to continue.

MOVEMENT KEYS

O	— THRUST UP
,	— THRUST DOWN
K	— THRUST LEFT
L	— THRUST RIGHT
0 TO 9	— SET WARP
•	— CENTER SHIP

Movement Keys

Press the 'O', 'K', 'L' or COMMA keys to provide a thrust in the desired direction.



Set Warp

Press a digit, 0 to 9, to automatically set your warp speed to the desired value. Acceleration is not immediate so the warp speed will take a few cycles to change.

Center Ship

Press the PERIOD key to center your ship in the space window.

FIRING KEYS

W	— PHOTON TORP AT NEAREST ENEMY SHIP
E	— TRACKING MISSLE AT NEAREST ENEMY SHIP
X	— TRACKING MISSLE AT SELECTED ENEMY
Z	— REPEAT "X" COMMAND
Q	— DETONATE MISSLES

Firing Keys

Press 'W' to fire a photon torp at the nearest enemy ship. Firing a photon torp uses 4 fuel units. A direct hit with a photon torp will give the enemy 10% damage. When the enemy's damage reaches 100% he will explode and be vaporized.

Press 'E' to fire a tracking missle at the nearest enemy ship. Firing a tracking missle uses 2 fuel units. A direct hit with a tracking missle will give the enemy 60% damage.

Press 'X' to fire a tracking missle at a selected enemy ship, planet or moon. After pressing 'X' you should enter the name of the enemy ship, planet or moon and then press RETURN.

Press 'Z' to repeat the last 'X' command. This eliminates the need to re-enter the name for successive firings.

Press 'Q' to prematurely detonate any tracking missles you have fired.

DISPLAY CHOICES

M — SPACE MAP
S — SPACE WINDOW
P — PLANET INFO
H — HELP
Y — HALL OF FAME

Display Choices

Press 'M' to display a map of the solar system. The solar system is divided into 45 sectors. The sector coordinates are listed along the top and left side of the screen. The Sun is in sector 4,2.

Press 'S' to display the space window. The space window shows approaching enemies, planets and moons.

Press 'P' to display planetary information. Planetary information lists the amount of fuel and the number of armies on each planet and moon. A planet or moon must have a minimum of 25 armies in order to launch an enemy fighter.

Press 'H' to display HELP screens that list the commands of the game.

Press 'Y' to display the TITAN EMPIRE HALL OF FAME.

PILOT COMMANDS

I —INFO ON . . . . .
G —GO TO . . . . . .
U —SHIELDS UP/DOWN
R —SET RADAR RANGE
D —DATE AND KILLS
CTRL—P PAUSE GAME
CTRL—C SAVE GAME ON DISK AND EXIT
ESC — CLEAR KEYBOARD

Pilot Commands

Press 'I' to get information about a planet, moon or enemy. After pressing 'I' enter the name of the object you want information about and press RETURN. You may escape before completing this command by pressing the ESC key.

Press 'G' to instruct your ship to go to and orbit a specified planet, moon or enemy. After pressing 'G' enter the name of the object you want to go to and press RETURN. You may escape before completing this command by pressing the ESC key.

The Information and Go To commands understand the following abbreviations that may be entered in place of a planet, moon or enemy name.

E —Nearest enemy ship
M —Nearest moon
P —Nearest planet
EM —Nearest enemy moon
EP —Nearest enemy planet
FM —Nearest friendly moon
FP —Nearest friendly planet

Planet and moon names may also be abbreviated. For example, enter 'MA' for Mars, 'ME' for Mercury or 'V' for Venus. Enemy ships are named '0' through '9'.

PILOT COMMANDS

I	—INFO ON . . . . .
G	—GO TO . . . . .
U	—SHIELDS UP/DOWN
R	—SET RADAR RANGE
D	—DATE AND KILLS
CTRL—P	PAUSE GAME
CTRL—C	SAVE GAME ON DISK AND EXIT
ESC	— CLEAR KEYBOARD

Pilot Commands cont'd.

Press 'U' to raise or lower the ship's shields. The shields will protect you from enemy tracking missles. Enemy photon torps can penetrate your shields. Using the shields consumes a great amount of fuel so they should be lowered when no danger is present.

Press 'R' to set the radar range. After pressing 'R' press a single digit from 1 to 9. Enemy ships and moons are only displayed in the radar screen when the radar range is set to 6 or less.

Press 'D' to display the date, the number of enemies killed and the number of planets won or lost.

Press CTRL—P to pause the game. The game will resume when another key is pressed.

Press CTRL—C to save the current state of the solar system to disk and exit the game.

Press ESC at any time to clear the keyboard buffer. TITAN EMPIRE contains a keyboard buffer that accumulates keystrokes and makes it possible to type ahead of the action. Press ESC clears this buffer.

ACTIONS INVOLVING THE NEAREST PLANET OR MOON

YOU MUST BE ORBITING WITH SHIELDS DOWN.

B	—BEAM UP ARMIES. PLANET MUST BE FRIENDLY.
T	—BEAM DOWN ARMIES. (TAKEOVER)
F	—FUEL UP. PLANET MUST BE FRIENDLY.
ESC	— STOP BEAMING OR FUELING.

The following keys work only if you are orbiting with your shields down.

Press 'B' to beam up armies from a friendly planet to your ship. After pressing 'B' enter a number of armies from 1 to 255 and press RETURN. While beaming up or down, the movement and firing keys are not operational. To stop beaming press the ESC key.

Press 'T' to beam down armies from your ship to a friendly or enemy planet. Each army beamed down to an enemy planet will kill one enemy army. When an army is beamed down to an enemy planet with no armies the friendly army will take control of the planet and it will then be friendly.

Press 'F' to fuel up your ship from a friendly planet or moon. Press the ESC key to stop fueling.

OUR SOLAR SYSTEM

Our solar system has nine planets that orbit or revolve around the Sun. These planets, in order of increasing distance from the Sun, are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto. All of the planets revolve around the Sun in the same direction.

The Sun, the center of our solar system, is one of the more than 100 billion stars of the Milky Way Galaxy. The Milky Way Galaxy is about 100,000 light years across (a light year is the distance that light travels in one year - approximately 5,900,000,000,000 or 5.9 trillion miles). Beyond the Milky Way galaxy exist billions of other galaxies each containing innumerable stars. About four and a half billion years ago the Sun and its planets condensed out of a cloud of gaseous matter to form our solar system in a region of space 30,000 light years from the center of the Milky Way Galaxy.

The Sun is a large gaseous ball, a hundred times larger in diameter than the Earth, with enormous temperatures and internal pressures. The surface temperature of the Sun in over 6000 degrees centigrade and internally the temperature may be as high as 16 million degrees. These high temperatures and pressures allow the Sun to function as a fusion reactor, a process that builds hydrogen into helium and releases the solar radiation necessary to maintain life on Earth. The Sun's surface or photosphere is marked by sunspots, regions of intensely magnetic activity, and solar flares with explosive ejections of radiant clouds of hot gases. Solar flares often rise 100,000 or more miles above the solar surface.

The planets of the solar system may be classified into two groups - the terrestial planets and the giant planets. The terrestrial planets (Mercury, Venus, Earth, Mars and Pluto) are solid and rocky with a hard crust. With exception of Pluto these planets are nearest the Sun. The giant planets (Jupiter, Saturn, Uranus, and Neptune) are the largest in the solar system and are similar to the Sun in composition being made up primarily of hydrogen and helium.

With exception of Mercury, Venus, and Pluto all of the planets have at least one moon or satelite. Earth has one moon, while Jupiter has 13 - the most of any planet. The majority of these satelites are thought to have originated out of the same gaseous materials as their planets during the origins of the solar sytem billions of years ago. The remaining moons are believed to have been asteroids which were captured by their planet's gravitational field.

Mercury is the smallest planet with a diameter of 2,900 miles. Because it is only 36 million miles from the Sun and lacks an appreciable atmosphere its surface undergoes the greatest temperature variations of any planet. During the Mercurian day surface temperatures reach 350 degrees centigrade while during the night the temperature can drop as low as -220 degrees centigrade.

Venus, the second planet from the Sun is named for the goddess of beauty. At its closest point it comes within 26 million miles of Earth, closer than any other planet. Venus is similiar to the Earth in size and mass and is often refered to as Earth's sister planet. Venus rotates slowly on its axis in a clockwise direction, opposite of the Earth, and takes 243 days to complete one rotation. Venus's thick atmosphere of carbon dioxide rotates much faster than the planets surface, completing one rotation in only 4 days. Because of heat trapped by the lower atmosphere, Venus is extremely hot with a surface temperature of 430 degrees centigrade.

The Earth is 7,930 miles in diameter and is in a circular orbit 93 million miles from the Sun. The Earth's one satelite, the Moon, is unusually large (diameter 2,163 miles) relative to the Earth. The Moon revolves around the Earth once every 29 and ½ days at an average distance of 238,866 miles. The composition of the Moon is similiar to the Earth but the lack of an atmosphere and resulting lack of natural erosion has caused the Moon's surface to remain largely unchanged since its creation. The surface of the Moon is heavily cratered from meteor impacts and ancient volcanic eruptions. The gravitational forces of the Moon and the Sun create tides in the Earth's oceans. When the Sun and the Moon are aligned their gravitational forces add to produce exceptionally high tides known as spring tides. When the Sun and the Moon are at right angles to each other their gravitational forces partially cancel to produce lower high tides called neap tides.

Mars, sometimes called the red planet, is only 4,220 miles in diameter and has a thin atmosphere consisting mainly of carbon dioxide. The surface of Mars is similiar to our moon and is dotted with meteor impact craters. For many years Mars was thought to have a system of visible canals, but recent photography by the Mariner space probes has conclusively shown that these canals do not exist. Mars has two small, irregularly shaped moons, Phobos and Deimos. These moons are only about 12 miles across and because of their small size they weren't discovered until 1877.

Between Mars and Jupiter exist thousands of smaller bodies called asteroids. The largest is Ceres with a diameter of 480 miles. Three other asteriods - Pallas, Vesta and Hygiea are more than 200 miles across, while the remaining thousands are much smaller. The asteriods consist mainly of small rock and iron fragments.

Jupiter, with a diameter of 88,700 miles, is the largest planet and has more than twice the mass of all the other planets combined. Like Saturn, Uranus, and Neptune it is composed primarily of frozen hydrogen and helium. Jupiter rotates more rapidly than any other planet - a day on Jupiter is only 9 hours and 50 minutes long. The most striking feature of Jupiter's surface is the Great Red Spot, an atmospheric disturbance 30,000 miles long and 7,000 miles across. Jupiter has 13 satelites. The four largest - Io, Europa, Ganymede, and Callisto were discovered in 1610 by Galileo and are called the Galilean satelites.

Saturn has a diameter of 75,100 miles and is the second largest planet of our solar system. Like the other giant planets it rotates very quickly on its axis, completing one rotation every 10 hours and 14 minutes. The most outstanding feature of Saturn is the system of rings that encircles it.These rings are composed of small pebble size particles that orbit rapidly around the planet. The rings are more than 165,000 miles across but are less than 10 miles thick. Saturn has ten satelites, the largest of which is Titan. Titan is unique in that it is the only moon in our solar system that has any appreciable atmosphere. Phoebe, Saturn's smallest, most distant moon, orbits the planet at an average distance of 8 million miles.

The remaining giant planets, Uranus and Neptune, are similiar in size with diameter of 32,000 and 30,000 miles respectively. Uranus is roughly 1.8 billion miles from the Sun, while Neptune is about a billion miles further out. Uranus has five small moons - Miranda, Ariel, Umbriel, Titania and Oberon. The largest of these, Titania, is less than 700 miles across. Neptune has two satelites, Nereid with a diameter of less than 200 miles, and Triton which is about 2300 miles across.

Pluto, the outermost planet of our solar system, wasn't discovered until 1930. Orbiting the Sun at an average distance of 3.7 billion miles, Pluto receives less than 1/1000 the solar radiation received by the Earth. Solar radiation, traveling at 186,000 miles per second, which can reach the Earth in 7 and 1/2 minutes takes almost 5 and 1/2 hours to reach Pluto. Some astronomers believe that Pluto may have been a moon of Neptune that was pulled from its orbit by the gravitational forces of the Sun.

The Planets of Our Solar System

	Diameter (miles)	Miles from Sun (in millions)	Length of Day	Length of Year
Mercury	2,900	36	59 days	.24 years
Venus	7,700	67	243 days	.61 years
Earth	7,930	93	1 day	1 year
Mars	4,200	142	1.03 days	2.6 years
Jupiter	88,700	483	.41 days	12 years
Saturn	75,100	886	.43 days	29.5 years
Uranus	32,000	1,780	.45 days	84 years
Neptune	30,000	2,790	.65 days	165 years
Pluto	3,700	3,670	.26 days	248 years

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